CLAIMS

1. A lipopeptide comprising at least one auxiliary T epitope, at least one CTL epitope and at least one lipid moiety characterized in that the epitopes and the lipid portion on the one hand and the epitopes on the other hand are independently separated by amino-acid sequences, so-called spacers, comprising linkages of generally charged amino-acids in a neutral medium, providing the lipopeptide hydrophilic.

2. A lipopeptide according to claim 1, characterized in that the spacers are generally hydrophilic and have from 1 to 10 amino-acids.

3. A lipopeptide according to one of claims 1 and 2, characterized in that at least one of the spacers comprises from 1 to 10 glycines and/or arginines.

4. A lipopeptide according to one of claims 1 to 3, characterized in that at least one of the spacers has one of the following sequences :

GLY ARG or

ARG GLY ARG

5. A lipopeptide according to one of claims 1 to 4, characterized in that at least one of the spacers comprises one or more glutamic and/or aspartic acids.

6. A lipopeptide according to one of claims 1 to 4, characterized in that the spacers comprise a cysteine or an alkyl chain functionalized by a thiol group and non peptide bonds, such as disulfide or dithioether bonds.

7. A lipopeptide according to any one of claims 1 to 4, characterized in that the spacers comprise a group such as a thiazolidine, oxime or hydrazone group.

8. A lipopeptide according to one of claims 1 to 7, characterized in that it comprises the linkage of :
- a lipid portion,
- a first spacer,
- an auxiliary T epitope,
- a second spacer, and
- a CTL epitope.

9. A lipopeptide according to one of claims 1 to 7, characterized in that it comprises the linkage of :

- a lipid portion,
- a first spacer,
- an auxiliary T epitope,
- a second spacer,
5 - a first CTL epitope,
- a third spacer, and
- a second CTL epitope.

10. A lipopeptide according to one of claims 1 to 9, characterized in that the lipid portion comprises one or more optionally branched or 10 insaturated chains derived from C_{10}-C_{20} fatty acids or alcohols, or a steroid derivative.

11. A lipopeptide according to one of claims 1 to 10, characterized in that the lipid portion comprises at least two chains derived from C_{10}-C_{20} fatty acids or alcohols, bonded together by one or more amino-acids.

15   12. A lipopeptide according to one of claims 1 to 11, characterized in that the lipid portion is made of two palmitic acid chains linked to the NH_2 groups of a lysine.

13. A lipopeptide according to one of claims 1 to 11, characterized in that the lipid portion comprises a moiety of palmitic, oleic, linoleic, 20 linolenic, 2-amino-hexadecanoic acids, pimelautide or trimexautide.

14. A lipopeptide according to one of claims 1 to 13, characterized in that the non lipid portion comprises from 15 to 100 amino-acids.

15. A lipopeptide according to one of claims 1 to 14, characterized in that the auxiliary T epitope is a multivalent epitope.

25   16. A lipopeptide according to one of claims 1 to 15, characterized in that the auxiliary T epitope is the 830-843 peptide of the tetanic toxin having the following sequence :

QYIKANSKFIGITE

17. A lipopeptide according to one of claims 1 to 15, characterized 30 in that the auxiliary T epitope is the haemagglutinin epitope or the PADRE epitope.

18. A lipopeptide according to one of claims 1 to 17, characterized in that it comprises at least a CTL epitope of a protein specific of the melanoma, a HIV protein, VBH, papillomavirus, protein p53 or a protein 35 from the intrahepatocytary stadium of *Plasmodium falciparum*.

19. Use of a lipopeptide according to one of claims 1 to 18 for making a medicine or a vaccine for the induction of a specific immune response.

20. Use of a lipopeptide according to one of claims 1 to 18 for making a medicine for the induction of an immune response against HIV, VBH, papillomavirus, the melanoma p-53 or malaria.

21. A pharmaceutical composition, characterized in that it comprises a pharmacologically efficient dose of one or more lipopeptides according to one of claims 1 to 18 and pharmaceutically compatible excipients.

22. A medicine or vaccine, characterized in that it comprises one or more lipopeptides according to one of claims 1 to 18.

MODIFIED CLAIMS

1. A lipopeptide comprising at least one auxiliary T epitope, at least one CTL epitope and at least one lipid moiety characterized in that the epitopes and the lipid portion on the one hand and the epitopes on the other hand are independently separated by amino-acid sequences, so-called spacers, comprising linkages from 1 to 10 generally charged amino-acids in a neutral medium, providing the lipopeptide hydrophilic.

2. A lipopeptide according to claim 1, characterized in that at least one of the spacers comprises from 1 to 10 glycines and/or arginines.

3. A lipopeptide according to ~~one of claims 1 to 2,~~ claim 1 characterized in that at least one of the spacers has one of the following sequences :

GLY ARG or

ARG GLY ARG

4. A lipopeptide according to ~~one of claims 1 to 3,~~ claim 1 characterized in that at least one of the spacers comprises one or more glutamic and/or aspartic acids.

5. A lipopeptide according to ~~one of claims 1 to 3,~~ claim 1 characterized in that the spacers comprise a cysteine or an alkyl chain functionalized by a thiol group and non peptide bonds.

6. A lipopeptide according to ~~any one of claims 1 to 3,~~ claim 1 characterized in that the spacers comprise a group selected amongst a thiazolidine, oxime or hydrazone group.

7. A lipopeptide according to ~~one of claims 1 to 6,~~ claim 1 characterized in that it comprises the linkage of :
- a lipid portion,
- a first spacer,
- an auxiliary T epitope,
- a second spacer, and
- a CTL epitope.

8. A lipopeptide according to ~~one of claims 1 to 6,~~ claim 1 characterized in that it comprises the linkage of :
- a lipid portion,
- a first spacer,
- an auxiliary T epitope,

- a second spacer,
- a first CTL epitope,
- a third spacer, and
- a second CTL epitope.   *claim 1*

5   9. A lipopeptide according to ~~one of claims 1 to 8,~~ characterized in that the lipid portion comprises one or more linear or branched, saturated or insaturated chains derived from C_{10}-C_{20} fatty acids or alcohols, or a steroid derivative.   *claim 1*

10. A lipopeptide according to ~~one of claims 1 to 9,~~ characterized in

10   that the lipid portion comprises at least two chains derived from C_{10}-C_{20} fatty acids or alcohols, bonded together by one or more amino-acids.

11. A lipopeptide according to ~~one of claims 1 to 10,~~ *claim 1* characterized in that the lipid portion is made of two palmitic acid chains linked to the NH_2 groups of a lysine.   *claim 1*

15   12. A lipopeptide according to ~~one of claims 1 to 10,~~ characterized in that the lipid portion comprises one or more chains selected amongst the palmitic acid, the oleic acid, the linoleic acid, the linolenic acid, the 2-amino-hexadecanoic acid, the pimelautide or the trimexautide.   *claim 1*

13. A lipopeptide according to ~~one of claims 1 to 12,~~ characterized

20   in that the non lipid portion comprises from 15 to 100 amino-acids.   *claim 1*

14. A lipopeptide according to ~~one of claims 1 to 13,~~ characterized in that the auxiliary T epitope is a multivalent epitope.   *claim 1*

15. A lipopeptide according to ~~one of claims 1 to 14,~~ characterized in that the auxiliary T epitope is the 830-843 peptide of the tetanic toxin

25   having the following sequence :

QYIKANSKFIGITE   *claim 1*

16. A lipopeptide according to ~~one of claims 1 to 14,~~ characterized in that the auxiliary T epitope is the haemagglutinin epitope of the influenza virus or the PADRE epitope.   *claim 1*

30   17. A lipopeptide according to ~~one of claims 1 to 16,~~ characterized in that it comprises at least a CTL epitope of a protein specific of the melanoma, a HIV protein, VBH, papillomavirus, protein p53 or a protein from the intrahepatocytary stadium of *Plasmodium falciparum.*   *claim 1*

18. Use of a lipopeptide according to ~~one of claims 1 to 17~~ for

35   making a medicine or a vaccine for the induction of a specific immune

response.

19. Use of a lipopeptide according to ~~one of claims 1 to 17~~ *claim 1* for making a medicine for the induction of an immune response against HIV, VBH, papillomavirus, the melanoma p-53 or malaria.

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20. A pharmaceutical composition, characterized in that it comprises a pharmacologically efficient dose of one or more lipopeptides according to ~~one of claims 1 to 17~~ *claim 1,* and pharmaceutically compatible excipients.

21. A medicine or vaccine, characterized in that it comprises ~~one or~~ more lipopeptides according to ~~one of claims 1 to 17.~~ *claim 1*

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